

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number  
**WO 2004/011591 A1**

(51) International Patent Classification<sup>7</sup>: **C12C 7/00**,  
7/04, 5/00

DK-1366 Copenhagen K (DK). **POULSEN, Poul, Børge**,  
Rosenius [DK/DK]; Vandkarsevej 9, DK-Bagsværd 2880  
(DK). **DÖRRICH, Kurt** [DE/DE]; Vogesenstrasse 18,  
D-79639 Grenzach-Wyhlen (DE).

(21) International Application Number:  
PCT/DK2003/000474

(22) International Filing Date: 4 July 2003 (04.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
DK PA 2002 01136 25 July 2002 (25.07.2002) DK  
DK PA 2002 01691  
4 November 2002 (04.11.2002) DK

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*):  
**NOVOZYMES A/S** [DK/DK]; Krogshøjvej 36, DK-2880  
Bagsværd (DK).

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BISGAARD-  
FRANTZEN, Henrik** [DK/DK]; Elmevænget 8B,  
DK-2880 Bagsværd (DK). **HANNEMANN, Wolfgang**  
[DE/DE]; Im Klinggarten 5, 67294 Oberwiesen (DE).  
**FESTERSEN, Rikke** [DK/DK]; Nansensgade 75 A, 2th.,

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: MASHING PROCESS

(57) Abstract: The present invention provides processes for production of wort and beer from grist mashed at high temperature.

WO 2004/011591 A1